

HIGH CAPACITY LOAD DECORATIVE HANGING MERCHANDISE DISPLAY RACK

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to the field of merchandise display racks and particularly to decorative hanging display racks for retail merchandise which are both decorative and capable of bearing high capacity hanging loads.

2. Description of the Prior Art

The art of display racks for hanging retail merchandise is practically as old as mankind itself. As such, retailers have always been faced with the dual problem of displaying merchandise in an aesthetic manner to attract the buyer as well as providing the best possible loading characteristics for the display fixture so that it doesn't collapse under the weight of the merchandise or when merchandise is pulled from the rack by the potential buyer. Attempts to solve this dilemma have taken many forms such as illustrated, by way of example, in United States Letters Patent Nos. 5,482,238; 4,585,131; 4,898,285; 6,053,460; 5,924,663; and 5,718,398; and British Patent No. GB 2,189,138. These prior art solutions, however, keep the aesthetic aspect and the structural aspect of the display rack components separate and distinct from each other, using different components solely for each of these aspects, thereby sacrificing features of one for the other and resulting in an inefficient use of materials. In this regard, snap-on or clip-on, or some other type of removable fastening member, such as illustrated in the aforementioned prior art, have been used to secure the decorative covering to the display rack without structurally enhancing the ability of the display rack to bear high capacity hanging loads

and the wear and tear normally associated with an active retail environment. As a result, in certain instances, not only is the display rack itself not strong enough to bear the desired loads, but the decorative covering itself may crack or shear under such loads.

Attempting to solve this problem by sacrificing the aesthetics of the display rack in order to increase the load bearing capacity of the display rack is not a viable solution in a retail environment, particularly a high-end retail environment, as it defeats the essential marketing purpose of displaying the merchandise in an attractive manner. These problems in the prior art are overcome by the present invention which structurally integrates the decorative components of the display rack, such as wood, with the dissimilar structural framework, such as steel, of the display rack to form a unitary high capacity load bearing structure which utilizes the decorative covering as both a decorative element and a structural element.

SUMMARY OF THE INVENTION

A decorative retail hanging merchandise display rack is provided which is capable of bearing high capacity hanging loads and which integrates the decorative components into the structural framework. The display rack includes structural steel tubular framing, such as in the form of an A-frame type supporting structure, and decorative cover members, such as wood, which are slidably mountable over the structural steel tubing, such as a sleeve, and are structurally secured to the structural steel tubular framework by threaded rods which apply compressive force against the decorative members in combination with a steel hanging port which is threaded mounted to the threaded rods which extend through the tubular steel framework and the decorative cover members. Several of these A-frame type structures can be structurally tied together to make a larger display rack. Various modifications of shape of the supporting framework are possible, as is the choices of materials, but structural steel and wood

are presently preferred in accomplishing the objectives of the present invention. Moreover, although the decorative member is preferably slidably mountable over portions of the structural steel tubular frame, it can also fit over it, such as at the base, in a tongue and groove channel type arrangement as well.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the presently preferred display rack in accordance with the present invention;

FIG. 2 is a plan view of the display rack of FIG. 1;

FIG. 3 is a front elevation of the display rack of FIG. 1;

FIG. 4 is a side elevation of the display rack of FIG. 1;

FIG. 5 is a perspective view of an alternative embodiment of the display rack of FIG. 1;

FIG. 6 is a plan view of the display rack of FIG. 5;

FIG. 7 is a front elevation of the display rack of FIG. 5;

FIG. 8 is a side elevation of the display rack of FIG. 5;

FIG. 9 is a cross sectional side view of the display rack of FIG. 1;

FIG. 10 is a side view of the tubular framework of the display rack of FIG. 1;

FIG. 11 is a front view of a typical decorative post for the display rack of FIG. 1;

FIG. 12 is a partial cross sectional side view of the display rack of FIG. 1;

FIG. 13 is an exploded view of the base portion of the display rack of FIG. 1;

FIG. 14 is a cross sectional view of a typical decorative post for use with the display rack of FIG. 1;

FIG. 15 is a cross sectional side view of another alternative embodiment for the display rack of FIG. 1;

FIG. 16 is a side view of the tubular framework of the display rack of FIG. 15;

FIG. 17 is an enlarged cross section partial view of the framework of FIG. 16;

FIG. 18 is an enlarged cross section partial side view of the display rack of FIG. 15;

FIG. 19 is a perspective view of still another alternative embodiment of the display rack of FIG. 1;

FIG. 20 is a front elevation of the display rack of FIG. 19;

FIG. 21 is a side elevation of the display rack of FIG. 19;

FIG. 22 is a plan view of the display rack of FIG. 19;

FIG. 23 is a partial cross section of the front of the display rack of FIG. 19;

FIG. 24 is a partial exploded perspective view of the hanging member attachment mechanism for the display rack of FIG. 19; and

FIG. 25 is a fragmentary cross section side view of the attachment mechanism illustrated in FIG. 24.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings in detail, and initially to FIGS. 1-4, and 9-14, the presently preferred embodiment of a high capacity lad decorative merchandise hanging display rack 100 in accordance with the present invention is shown. As shown and preferred, the display rack 100 includes a structural steel framework 102 and a decorative wood covering 104 for the structural steel framework 102. The preferred structural framework 102 is composed of tubular steel, such as $\frac{3}{4}$ inch 12 gauge square tubular steel, such as illustrated in FIG. 10. The decorative wood covering 104 is preferably 2 inch square wood which has a channel in it to allow it to slidably slip over the tubular framework and form a sleeve therefor such as shown in FIGS. 1, 3, 4 and 9-12. Preferably a threaded steel rod 108 extends through the tubular steel framework and the mounted decorative wood sleeve or covering 104 and applies compressive forces to the decorative wood covering 104 to structurally tie the wood covering and the tubular framework

102 together in the display rack 100. This is accomplished, as shown and preferred in FIG. 9 by means of a metal plate 110 located at one end of the decorative covering 104 and a nut 112 and/or washer arrangement located at the other end of the decorative wood covering 104. The metal plate 110 is an integral portion of the hanging portion 114 of the display rack 100 and is located at the ends of the preferably triangular shaped hanging portion 114 which preferably contains a threaded socket 116 which threadably mounts on the upper end of each threaded rod 108 extending through the tubular framework 102 and mounted decorative wood covering 104. By tightening the nut 112 and the threaded mounting 116 to the desired tightness, the plate 110 applies compressive force to the decorative wood covering 102 to provide the structurally integrated display rack 100.

As far as the decorative wood covering 106 at the base portion of the display rack 100, this is preferably mounted to the tubular framework base portion 102a by use of a tongue and groove channel 120 in the wood which mates with a complementary channel 122 in the tubular frame base portion 102 and is then bolted to it, such as illustrated in FIGS. 12-14. If desired, and as shown in FIGS. 1, 3-4, an additional steel base 124 can also be mounted to the base for additional aesthetic appeal.

Referring now to FIGS. 5-8 and 15-18, an alternative embodiment 200 of the display rack 100 described above is shown. In the alternative embodiment 200 illustrated in FIGS. 5-8 and 15-18 the principles are the same but instead of forming an A frame at each end of the hanging bar 126, the A frame sections 202, 204 are rotated ninety degrees and placed adjacent to each other and structurally tied together, with the hanging bars 206, 208 also being rotated ninety degrees to form T type sections. In this instance steel cross pieces 210, 212, 214 are attached to the base portion for added structural stability for the rack 200. Apart from the above, as illustrated in

FIGS. 15-18, the steel tubular framework 216 is structurally tied to the decorative wood covering 218 in the same manner as previously described using threaded steel rods 220, bolts 222, and metal plates 224 threaded mounted on the other end of the rods 220 to apply compressive forces to the mounted decorative wood cover member 226, with this more clearly illustrated in the enlarged view of FIG. 18.

Referring now to FIGS. 20-25, still another embodiment 300 of the display rack of the present invention, applying the same principles is shown. In this instance, however, the hanging portion 302 is attached in a slightly different manner as illustrated in FIGS. 23-25. As shown and preferred in this embodiment 300, the hanger portion 302 is preferably a 1 inch diameter steel tube in which a metal adapter 304 containing a thread socket 306 has been welded. This arrangement is then structurally tied to a steel tubular cross piece 308 extending between the two legs of the A frame type structure and welded to the upstanding portions 310 of the steel tubular framework 311. The cross piece 308 preferably includes an upstanding threaded rod 312 welded inside the cross piece 308 and extending vertically through both the tubular cross piece 308 and the decorative wood covering 314 for the cross piece 308 and the hanger portion 302 is then threadably mounted to this rod 312 and structurally tied to the tubular framework 311 and the decorative wood covering. The decorative wood coverings for the upstanding legs are preferably structurally tied to the tubular steel framework 311 through threaded rods 316 in the same manner as previously described with respect to the other embodiments except a nut/bushing 318 is used instead at both ends of the rods 316.

While the present invention has been described herein with reference to specific embodiments, those examples are intended to only be illustrative thereof and are not intended to limit the spirit or scope of the invention.